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# Irrigators' Perspectives on Water Management and Adaptation in the San Luis Valley

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San Luis Valley Producers:

- Decisions are driven by both yield/profit and impact on future generations
- Are more sensitive to policy changes than to drought
- Prefer to change technologies rather than crops
- Are divided on whether current groundwater rules have a positive impact
- Agree that current groundwater rules are legitimate and are being followed
- Believe that current groundwater rules have a disproportionate impact on certain groups
- Support a broad variety of policies to manage groundwater

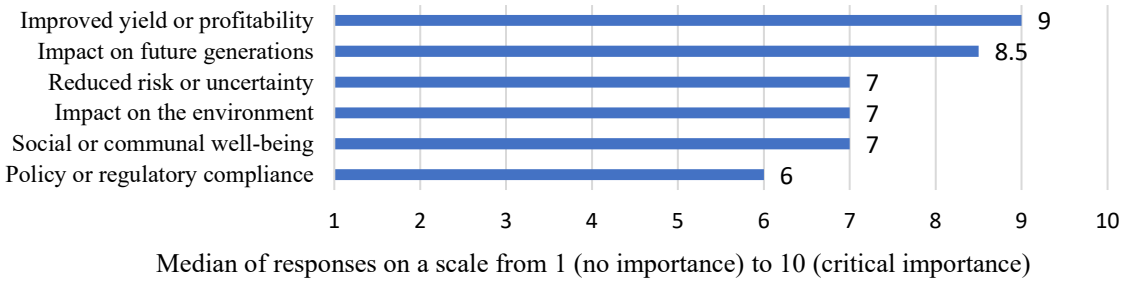
**Background:** Agriculture is a mainstay of the economy and communities of the San Luis Valley. Many farms rely on groundwater, but this resource is increasingly scarce. Total groundwater use must decrease by about a third over the next decade to replenish the aquifer and prevent injury to senior surface water rights. Many producers are part of the Rio Grande Water Conservation District, which exercises local groundwater governance as an alternative to direct regulation by the State Engineer. Understanding the perspectives of San Luis Valley producers will help local and state policymakers effectively manage their groundwater resources. This report summarizes key findings from a survey of producers whose groundwater use is locally governed by the Rio Grande Water Conservation District. The survey was conducted between March and May of 2023 and had 63 respondents.

**Survey Participants:** The typical survey respondent is a male farm owner who is over the age of 65 and intends to continue farming for another decade before passing the operation on to an immediate family member. The typical survey respondent has a water rights portfolio with middle seniority and has a mix of both surface water and groundwater rights. The survey response rate of 6.42% is low, but consistent with a nationwide trend of decreasing participation in agricultural surveys.

| *Item* | *Type* | *Value* |
|---|---|---|
| Total survey responses | Sum | 63 |
| Survey response rate | Percentage | 6.42% |
| Role on farm | Mode | Owner |
| Years farming in the region | Mean | 28 |
| Years to retirement | Mean | 11 |
| Intended exit strategy | Mode | Succession to immediate family member |
| Education level | Mode | Bachelor's degree |
| Age group | Mode | Over 65 |
| Gender | Mode | Male |
| Work hours per week | Mode | 45-59 |
| Income from farming | Mode | 80% or more |
| Water right seniority | Mode | Middle |

**Making Decisions on the Farm:** When considering changes on the farm, survey participants place the most importance on improved yield or profitability and impact on future generations (see Figure 1). Participants were asked to rate six factors on a scale of 1 (of no importance) to 10 (critically important).

Figure 1: Importance when considering changes on the farm




Median of responses on a scale from 1 (no importance) to 10 (critical importance)

**Preferred Adaptations to Water Scarcity:** As water becomes scarcer, producers might choose to adapt by investing in new technologies or alternative crops. Producers might also choose not to make these investments, possibly suffering from lower yields in dry years. We asked participants which of these options they would prefer under scenarios where water scarcity is the result of stricter policies or drier weather conditions. As shown in Figures 2 and 3 below, more producers prefer to invest in new technologies than to change crops. More producers prefer not to make changes when facing drier weather than stricter policies. These results suggest that producers in the San Luis Valley are more sensitive to policy changes rather than changes in weather, and that they prefer to change technologies rather than crops. Figure 4 below shows participant interest in various on-farm adaptations to less water. Responses suggest that producers in the San Luis Valley are most likely to adapt to water scarcity by fallowing fields, switching to less water intensive crops, investing in water monitoring technology, and siting solar energy production on their farms.

Figure 2: Adaptation Preferences (Stricter Policy Scenario)

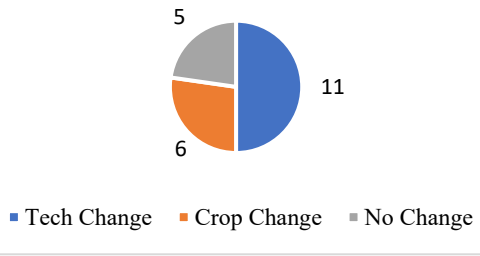
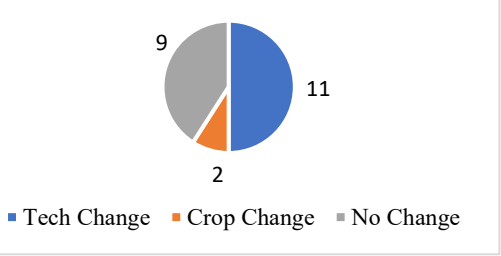



Figure 3: Adaptation Preferences (Drier Weather Scenario)




**Perceptions of Current Groundwater Rules:** Participants have mixed perceptions of the current groundwater rules in the San Luis Valley (see Figure 5). Most participants agree that current groundwater rules are legitimate and are being followed. However, participants also believe that the current rules are having disproportionate impacts on certain groups within the community. Participants are divided on whether the current rules are having a positive impact on the local farming community and whether they are effective at reducing water use or preventing further state intervention.

**Interest in Water Management Policies:** Participants support a variety of groundwater management policies (see Figure 6). This suggests that the Rio Grande Water Conservation District and local subdistricts have room to experiment with policies to effectively manage groundwater in the San Luis Valley.

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Figure 4: On-Farm Adaptations to Less Water

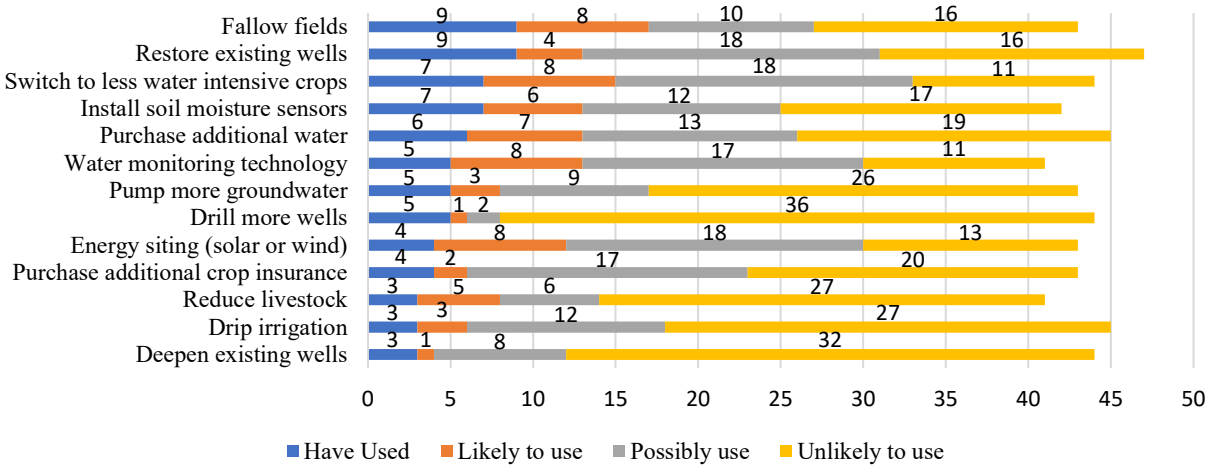


Figure 5: Perceptions of Current Groundwater Rules

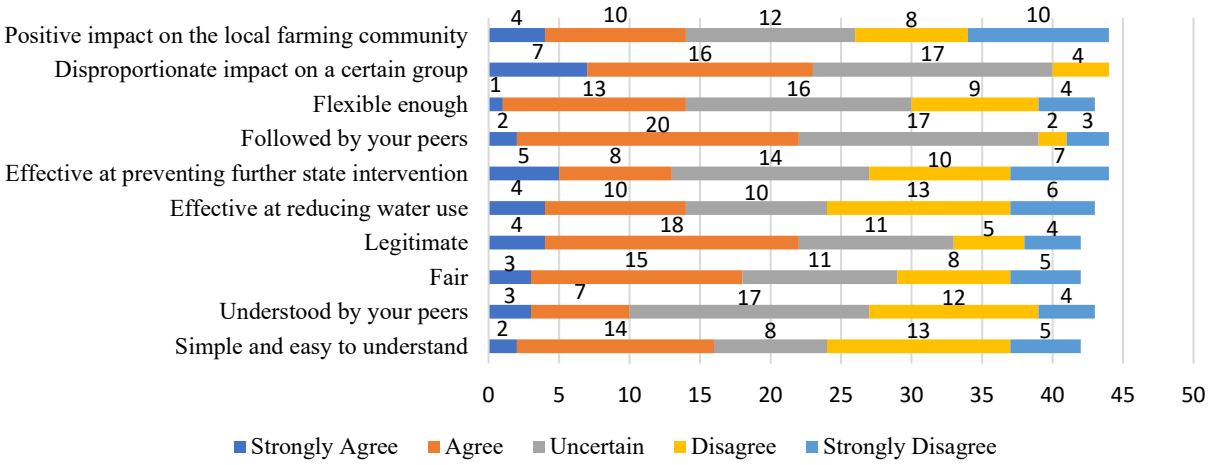


Figure 6: Support for Water Management Policies